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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/978,384	10/16/2001	Kent D. Vincent	10005744-1	4256

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER

DHARIA, PRABODH M

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 10/02/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/978,384

Applicant(s)

VINCENT ET AL.

Examiner

Prabodh M Dharia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Rejections- 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3,10-13,16-18,20,21,35-37,40-42,44,45,48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uranaka (5,937,158) in view of Vincent (6,045,955).

Regarding Claim 1, Uranaka teaches an electronic book device (Col. 12, Lines 59-62) comprising: a rewritable viewing screen (Col. 10, Lines 40-60).

However, Uranaka fails to teach an electrical printhead for writing picture elements of the viewing screen, wherein the viewing screen has a rewritable electronic colorant for printing document content therewith.

However, Vincent teaches an electrical printhead for writing picture elements of the viewing screen, wherein the viewing screen has a rewritable electronic colorant for printing document content therewith (Col. 2, Lines 42-51).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Vincent in Uranaka teaching for having a high resolution, high speed re-writable media, and display.

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Regarding Claim 2, Vincent teaches bistable (Col. 5, Lines 9-20), bi-modal (Col. 12, Lines 36-41) molecular colorant (Col. 5, Lines 9-11) susceptible to electrical fields from the printhead for forming the picture elements (Col. 5, Lines 9-20, Col. 12, Lines 36-41).

Regarding Claim 3, Uranaka teaches electronics for downloading, storing, sequencing, and erasably printing on the screen (Col. 10, Lines 51-60, Col. 15, Lines 63-67).

Regarding Claim 10, Uranaka teaches a wired or wireless input port for receiving at least one readable document electronically (Col. 10, Lines 51-60, Col. 15, Lines 63-67). Sawano teaches a wired or wireless input port for receiving at least one readable document electronically (Col. 7, Lines 4-7).

Regarding Claim 11, Vincent teaches the viewing screen and printhead are operationally associated for printing a full page document content in a single pass of the screen across the printhead (Col. 2, Lines 42-51, Col. 6, Lines 49-64).

Regarding Claim 12, Vincent teaches document content resolution of a page printed on the screen is at least equal to commercial hard copy print resolution (Col. 12, Lines 5-33).

Regarding Claim 13, Vincent teaches the colorant further comprising: molecules that exhibit an electric field induced band gap change (Col. 3, Line to Col. 4, Line 13).

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Regarding Claim 16, Uranaka teaches a rewritable digital book device (Col. 10, Lines 51-58, Col. 12, Lines 49-51) comprising: a housing means for housing components of the device; means for downloading, storing, sequencing, and erasably printing document content (Col. 10, Lines 51-60, Col. 12, Lines 49-62); and viewing means for sequentially, erasably writing the content at a commercial grade high resolution hard copy pixel resolution (Col. 15, Lines 58-67, Col. 11, Lines 21-43, Col. 10, Lines 51-60, Col. 12, Lines 49-62).

However, Uranaka fails to teach specifically erasably writing.

However, Vincent teaches erasably writing (Col. 2, Lines 42-51).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Vincent in Uranaka teaching for having a high resolution, high speed re-writable media, and display.

Regarding Claim 17, Vincent teaches the viewing means including means for printing the content using an electronic colorant means for erasably writing (Col. 2, Lines 42-51).

Regarding Claim 18, Vincent teaches the colorant means including a bistable, bi-modal molecular colorant system susceptible to electrical fields from the printhead for forming picture elements of the viewing means (Col. 2, Lines 42-51, Col. 12, Lines 5-33).

Regarding Claim 20, Uranaka teaches the means for downloading, storing, sequencing, and erasably printing document content including means for internet data and controls processing (Col. 15, Lines 58-67, Col. 11, Lines 21-43, Col. 10, Lines 51-60, Col. 12, Lines 49-62).

Regarding Claim 21, Uranaka teaches the means for downloading, storing, sequencing, and erasably printing document content including wireless communication means for retrieving the content (Col. 15, Lines 58-67, Col. 11, Lines 21-43, Col. 10, Lines 51-60, Col. 12, Lines 49-62).

Regarding Claim 35, Uranaka teaches a method of doing business of distribution of a document (Col. 8, Lines 35-51), the method comprising: transmitting electronic data representative of the document (Col. 8, Line 44); and providing a customer with mechanisms associated with the transmitting for the customer to receive the data on a portable reading device having a single display screen (Col. 8, Line 51 to Col. 9, Line 4)

However, Uranaka fails to teach an electric field addressable rewritable colorant displaying the data in a form substantially identical to a hard copy form of the document.

However, Vincent teaches an electric field addressable rewritable colorant displaying the data in a form substantially identical to a hard copy form of the document (Col. 11, Line 50 to Col. 12, Line 4).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Vincent in Uranaka teaching for having a high resolution, high speed re-writable media, and display.

Regarding Claim 36, Uranaka teaches using commercially-available communications interfacing for the transmitting such that an electronic copy of a written document anytime and

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anyplace and in any known manner where a communications link can be established (Col. 10, lines 52-60).

Regarding Claim 37, Vincent teaches using a bi-modal, bistable, molecular system for creating alphanumeric characters and graphic images on the screen (Col. 11, Line 50 to Col. 12, Line 33).

Regarding Claim 40, Uranaka teaches providing the document in real-time on a page-by-page paid basis (Col. 14, Lines 20-39).

Regarding Claim 41, Uranaka teaches providing the document in real-time on a document-by-document paid basis (Col. 14, Lines 20-39).

Regarding Claim 42, Uranaka teaches the mechanisms further comprising: providing controls associated with ordering documents from an index of available documents (Col. 12, Lines 49-62).

Regarding Claim 43, Uranaka teaches providing security controls associated with purchase of the document (Col. 13, Lines 3-42).

Regarding Claim 44, Uranaka teaches a method of manufacture of an electronic book apparatus (Col. 10, Lines 51-60), the method comprising: assembling a portable housing with

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subsystems for receiving data and generating readable images of the data; and combining the subsystems with a display for the readable images (Col.10, Lines 51-60, Col. 11, lines 21-61, Col. 12, Lines 49-62, Col. 13, Lines 3-42, Col. 13, Line 66 to Col. 14, Line 11).

However, the display includes an electric field addressable rewritable colorant for displaying the data in a form substantially identical in viewability to a hard copy form of the data.

However, Vincent teaches an electric field addressable rewritable colorant displaying the data in a form substantially identical to a hard copy form of the document (Col. 11, Line 50 to Col. 12, Line 4).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Vincent in Uranaka teaching for having a high resolution, high speed re-writable media, and display.

Regarding Claim 45, Vincent teaches fabricating the display including a view screen surface using a bi-modal, bistable, molecular system for creating alphanumeric characters and graphic images on the surface (Col. 11, line 50 to col. 12, Line 32).

Regarding Claim 48, Vincent teaches the viewing means comprises: a plurality of viewing screens wherein each screen has the system for displaying successive pages of the document content (Col. 5, Lines 61-65, Col. 2, lines 42-65).

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3. Claims 4-9,19,22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uranaka (5,937,158) in view of Vincent (6,045,955) as applied to claims 1-3,10-13,16-18,20,21,35-37,40-42,44,45,48 above, and further in view of Sawano (6,498,597 B1).

Regarding Claim 4, Uranaka teaches an electronic book device (Col. 12, Lines 59-62) comprising: a rewritable viewing screen (Col. 10, Lines 40-60).

However, Uranaka modified by Vincent fails to teach a housing, and the screen is biasingly extendable and retractable with respect to the housing such that the screen passes across the print head wherein one pass writes an entire screen page

However, Sawano teaches a housing, and the screen is biasingly extendable and retractable with respect to the housing such that the screen passes across the print head wherein one pass writes an entire screen page (Col. 2, Lines 23-32).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Sawano in Uranaka modified by Vincent teaching for having a high resolution, high speed re-writable media, and display being scroll-like flexible medium which is continuously displayable.

Regarding Claim 5, Sawano teaches the print head includes a plurality of addressable electrodes such that screen pixel resolution is determined by electrode packing density (Col. 6, Lines 28-33, Col. 7, Lines 48-56).

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Regarding Claim 6, Sawano teaches the device is portable, having a self-contained power supply, memory, and electronic controls interconnected for processing data representative of alphanumeric characters and graphics for printing the data on the screen (Col. 7, Lines 4-43, Col. 8, Lines 38-41).

Regarding Claim 7, Sawano teaches a biased roller, wherein the screen is a flexible sheet having one extremity affixed to a roller and an opposing extremity for selectively extending from and retracting into the housing (Col. 2, Lines 23-32, Col. 9, Lines 1-11).

Regarding Claim 8, Sawano teaches the housing has physical dimensions to accommodate the biased roller with the sheet wrapped thereabout and the print head such that portability is maximized (Col. 2, Lines 22-38, Col. 9, Lines 1-11).

Regarding Claim 9, Sawano teaches a control pad providing interactive function controls for processing data displayed on the screen (Col. 7, Lines 4-43, Col. 8, Lines 38-41).

Regarding Claim 19, Sawano teaches the viewing means is extractable from the housing means such that the content is erased and written simultaneously in a full page content via extraction and retraction (Col. 6, Lines 38-48, Col. 7, Line 63 to Col. 8, line 7).

Regarding Claim 22, Sawano teaches a personal digital assistant apparatus (Col. 6, Lines 63-67).

Regarding Claim 23, Sawano teaches the viewing means is detachable from the device (Col. 6, Lines 63-67).

Regarding Claim 24, Sawano teaches the means for downloading, storing, sequencing, and erasably printing document content including an addressable molecular wire mechanism (Col. 4, Lines 4-67, Col. 6, line 63 to Col. 7, Line 43).

Regarding Claim 25, Sawano teaches a screen having displayed thereon controls for manipulating the downloading, storing, sequencing, and erasably printing document content (Col. 4, Lines 4-67, Col. 6, line 63 to Col. 7, Line 43).

Regarding Claim 26, Sawano teaches the housing means is in a geometric form and size associated with hard copy newsprint (Col. 3, Lines 48-58).

Regarding Claim 27, Sawano teaches the housing means is in a geometric form and size of associated with pocket-sized commercial products (Col. 3, Lines 48-58, Col. 6, Lines 63-67, Col. 9, Lines 1-11).

Regarding Claim 28, Sawano teaches associated with the means for downloading, storing, sequencing, and erasably printing document content, means for viewing means position sensing (Col. 4, Lines 4-67, Col. 6, line 63 to Col. 7, Line 43).

Regarding Claim 29, Sawano teaches associated with the means for downloading, storing, sequencing, and erasably printing document content and the viewing means, means for controlling content printing on the viewing means (Col. 4, Lines 4-67, Col. 6, line 63 to Col. 7, Line 43).

4. Claims 14,15,38,39,46,47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uranaka (5,937,158) in view of Vincent (6,045,955) as applied to claims 1-3,10-13,16-18,20,21,35-37,40-42,44,45,48 above, and further in view of Chen (6,579,742 B2).

Regarding Claim 14, Uranaka teaches an electronic book device (Col. 12, Lines 59-62) comprising: a rewritable viewing screen (Col. 10, Lines 40-60).

However, Uranaka fails to teach the electric field induced band gap change occurs via a mechanism selected from a group including (1) molecular conformation change or an isomerization, (2) change of extended conjugation via chemical bonding change to change the band gap, and (3) 1s molecular folding or stretching.

However, Chen teaches the electric field induced band gap change occurs via a mechanism selected from a group including (1) molecular conformation change or an isomerization, (2) change of extended conjugation via chemical bonding change to change the band gap, and (3) 1s molecular folding or stretching (Col. 4, Lines 14-21).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Chen in Uranaka modified by Vincent teaching for having a nanoscale

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computing and memory circuits and the formation of wires for device application specifically use of imprinting to form electrodes, devices and circuit to miniaturize the device.

Regarding Claim 15, Vincent teaches the molecules have more than two the states, switchable such that optical properties can be tuned either continuously by application of a decreasing or increasing electric field to form a volatile switch or color of selected composition regions is changed abruptly by application of voltage pulses to switch with at least one molecular activation barrier (Col. 5, Lines 1-22).

Regarding Claim 38, Chen teaches the system has molecules that exhibit an electric field induced band gap change (Col. 4, Lines 15,16).

Regarding Claim 39, Chen teaches the electric field induced band gap change occurs via a mechanism selected from a group including (1) molecular conformation change or an isomerization, (2) change of extended conjugation via chemical bonding change to change the band gap, and (3) molecular folding or stretching (Col. 4, Lines 14-29).

Regarding Claim 46, Chen teaches the molecules exhibit an electric field induced band gap change (Col. 4, lines 15,16).

Regarding Claim 47, Chen teaches the electric field induced band gap change occurs via a mechanism selected from a group including (1) molecular conformation change or an

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isomerization, (2) change of extended conjugation via chemical bonding change to change the band gap, and (3) molecular folding or stretching (Col. 4, Lines 14-34).

5. Claims 30-32, are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawano (6,498,597 B1) in view of Vincent (6,045,955).

Regarding Claim 30, Sawano teaches a method of providing readable pages (Col. 2, Lines 22-32, Lines 54-58) the method comprising: downloading data representative of each of the readable pages into a memory (Col. 4, Lines 4-67, Col. 6, line 63 to Col. 7, Line 43); providing a viewing screen (Col. 2, Lines 22-32, Lines 54-58) having an electric field addressable rewritable colorant thereon (Col. 4, Lines 4-67, Col. 6, line 63 to Col. 7, Line 43); and writing each of the pages sequentially to the viewing screen by passing the screen adjacently across a printhead having electrical fields associated with pixels of the screen (Col. 2, Lines 22-32, Lines 54-58, Col. 4, Lines 4-67, Col. 6, line 63 to Col. 7, Line 43) such that the data is transferred from the memory to the screen (Col. 2, Lines 22-32, Lines 54-58, Col. 4, Lines 4-67, Col. 6, line 63 to Col. 7, Line 43).

However, Sawano fails to teach specifically an electric field addressable rewritable colorant and a printhead having electrical fields associated with pixels of the screen.

However, Vincent teaches an electric field addressable rewritable colorant (Col. 2, Lines 42-52) and a printhead having electrical fields associated with pixels of the screen (Col. 5, line 66 to Col. 6, Line 52, Col. 2, Line 15-32).

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Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Vincent in Sawano teaching for having a high resolution, high speed re-writable media, and display.

Regarding Claim 31, Sawano teaches providing a communications interface capability for obtaining an electronic copy of a written document anytime and anyplace and in any known manner where a communications link can be established Col. 4, Lines 4-67, Col. 6, line 63 to Col. 7, Line 43).

Regarding Claim 32, Vincent teaches using a bi-modal, bistable, molecular system for creating alphanumeric characters and graphic images on the screen (Col. 12, Lines 5-41).

6. Claims 33,34, are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawano (6,498,597 B1) in view of Vincent (6,045,955) as applied to claims 30-32 above, and further in view of Chen (6,579,742 B2).

Regarding Claim 33, Sawano teaches a housing, and the screen is biasingly extendable and retractable with respect to the housing such that the screen passes across the print head wherein one pass writes an entire screen page (Col. 2, Lines 23-32).

However, Sawano modified by Vincent fails to teach the system has molecules that exhibit an electric field induced band gap change.

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However, Chen teaches the system has molecules that exhibit an electric field induced band gap change (Col. 4, Lines 15,16).

Thus it is obvious to one in the ordinary skill in the art at the time of invention was made to incorporate teaching of Chen in Sawano modified by Vincent teaching for having a nanoscale computing and memory circuits and the formation of wires for device application specifically use of imprinting to form electrodes, devices and circuit to miniaturize the device.

Regarding Claim 34, Chen teaches the electric field induced band gap change occurs via a mechanism selected from a group including (1) molecular conformation change or an isomerization, (2) change of extended conjugation via chemical bonding change to change the band gap, and (3) molecular folding or stretching (Col. 4, Lines 14-29).

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is informed that all of the other additional cited references anticipate the claimed material and render the claims obvious.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sawano Mitsuru (JP 2000-132122) Scroll- type display capable of continuous display.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prabodh M Dharia whose telephone number is 703-605-1231.

The examiner can normally be reached on M-F 8AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703-3054938. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

10. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 2023

PD

AU2673

September 4, 2003

A handwritten signature in black ink, appearing to read 'Vijay Shankar', with a long, sweeping horizontal line extending to the right.

**VIJAY SHANKAR
PRIMARY EXAMINER**